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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,846	01/13/2005	Sung Yoon Kim	260977US6PCT	7194

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EXAMINER
SCHWARTZ, DARREN B

ART UNIT	PAPER NUMBER
4193	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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	Application No.	Applicant(s)
Office Action Summary	10/519,846	KIM ET AL.
	Examiner	Art Unit
	DARREN B. SCHWARTZ	4193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>13 January 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>13 January 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
            application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>01-13-05</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 1 is objected to because of the following informalities: Claim 1, line 2

recites "distributed content which **can be** used." This is not a positive recitation of the

claim limitation and should be changed to "distributed content which **is** used."

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 21 and 22 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. Claims 21 and 22 are directed to a

program, *per se*. The body of the claim is directed to the logic steps of the program

itself. Therefore, it is treated as a program alone. Warmerdam, 33 F.3d at 1361,31

USPQ2d at 1760. In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA

1978). See MPEP § 2106(IV)(B)(1)(a).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

5.   Claims 1-5, 12 and 21 rejected under 35 U.S.C. 102(b) as being anticipated by

Tanaka et al. (U.S. Pat Pub 2002/0114466 A1), hereinafter referred to as Tanaka.

Re claims 1 and 21: Tanaka teaches an information device [Fig 1, CLIENT elt],

comprising: a first memory means for storing an encrypted and distributed content

which can be used on condition that a license is held (Fig 3, elts S3 & S4; page 4, col 2

of ¶83, lines 2-5; Fig 4, elts S24, S25 & S26; ¶89, lines 9-13; Fig 5, elt DATA with a

plurality of "Encryption Blocks"; ¶105); a second memory means for storing the license

(Fig 5, elt: Lic ID; ¶90 and J91); a third memory means for storing grouped device

identification information for grouping and identifying a plurality of information devices

which intend to use the content and key information for content decryption commonly

provided to each device group together with a group identifier provided to each device

group (Fig 8; ¶121; Fig 12; ¶137; ¶141, lines 1-4; ¶144); and a replay means for

performing a process of decrypting the content stored in the first memory means on the

basis of the stored information in the second memory means and the third memory

means to replay the content (Fig 6; ¶105 and ¶106).

Re claim 2: Tanaka further teaches the first memory means associates license

identification information for identifying the license enabling the use of the content with

the content to store the license identification information (Fig 8, elt: Lic ID; ¶30; ¶94;

¶105), and the license stored in the second memory means includes the license

identification information and the grouped device identification information (Fig 5; ¶90;

¶132, lines 15-20; ¶140; ¶144: specifically the Enabled Key Block).

Re claim 3: Tanaka further teaches the replay means reads out license identification information associated with a content requested to be replayed from the first memory means (Fig 6, elt S41; ¶106, lines 1-4), the replay means reads out grouped device identification information associated with the read license identification information from the second memory means (Figs 19 & 20; ¶144 and ¶176), the replay means reads out key information associated with the read grouped device identification information (Figs 19 & 20; ¶144 and ¶176), and the replay means decrypts the content stored in the first memory means through the use of the read key information to output the content (Fig 6, elts S46, S47 & S48; ¶108).

Re claim 4: Tanaka further teaches a group registration request means for requesting an information server to register a device group to which the information device belongs in the information server (¶133, ¶134; Tanaka teaches registering a device; doing this multiple times for a plurality of devices can be done according to Fig 11).

Re claim 5: Tanaka further teaches a service registration request means for requesting the information server to register the information device as an object to be serviced, and submit the grouped device identification information and the key information to the information device (Fig 12; ¶137, ¶139 and ¶140).

Re claim 12: Tanaka further teaches the content is text data, still image data, moving image data, voice data or data including a combination thereof (¶9).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Tanaka et al. (U.S. Pat Pub 2002/0114466 A1), hereinafter referred to as Tanaka, in

view of Oho et al. (U.S. Pat Pub 2002/0184515 A1), hereinafter referred to as Oho.

       Re claim 6: Tanaka teaches all the limitations of claim 4 as previously discussed.

Tanaka further teaches a fourth memory means for storing unique device identification

information for identifying the information device from others (Fig 12; ¶137; ¶144, lines

1-4).

       However, Tanaka does not teach a device registration request means for

requesting the information server to register the device identification information stored

in the fourth memory means in the information server.

       Oho teaches a device registration request means for requesting the information

server to register the device identification information stored in the fourth memory

means in the information server (Fig 7A, elt "DEVICE IDENTIFIER NUMBER"; ¶109:

page 5, line 1 – page 6, line 5).

       It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have modified the Tanaka reference to utilize the register the

device identification information, as taught by Oho, for the purpose of providing unique

identification of devices held by the same licensee and for easy determining the usage
rights of particular devices (see ¶111).

    Re claim 7: Tanaka in view of Oho teaches a device identification information
production means for producing the device identification information which is supposed
to be stored in the fourth memory means (Tanak: ¶200 and Oho: ¶110).

    Re claim 8: Tanaka in view of Oho teaches a device registration deletion request
means for requesting the information server to delete the registration of the device
identification information stored in the fourth memory means from the information server
(Tanaka: Fig 45, elt S382; ¶299 and Oho: Fig 45, all elts).

    Re claim 9: Tanaka teaches all the limitations of claim 1 as previously discussed.

    However, Tanaka does not teach one device group is defined as a group
including a plurality of information devices owned by one user.

    Oho teaches one device group is defined as a group including a plurality of
information devices owned by one user (Fig 15: elts 21a, 21b & 21c which are part of
device group 21, which are held by Licensee β).

    It would have been obvious to one of ordinary skill in the art at the time the
invention was made to have modified the Tanaka reference to identify groups of devices
owned by one user, as taught by Oho, for the purpose of easily distributing licenses to
individuals who own a plurality of electronic devices (see Oho: ¶19).

8.   Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Tanaka et al. (U.S. Pat Pub 2002/0114466 A1).

Re claim 10: Tanaka teaches all the limitations of claim 1 as previously

discussed. Tanaka further teaches the key information corresponds to a device node

key allocated to a device group to which the information device belongs as a device

node in the bottom layer among node keys which are encrypted and defined

corresponding to each node in a hierarchical tree structure branching off from the top

layer to the bottom layer and (Fig 12; ¶133; ¶140; ¶141, lines 1-3), the content is

multiply encrypted through the use of each node key on a path from the device node

key to a root key which is a node key in the top layer in the hierarchical tree structure

(Fig 5, see Encryption Blocks contents; ¶151; additionally, the content, which is

encrypted, has the respective key also encrypted),

However, Tanaka does not teach the replay means sequentially decrypts the

node keys on the path from the bottom layer to the top layer in the hierarchical tree

structure through the use of the key information as the device node key to obtain the

root key, and then decrypts the content through the use of the obtained root key.

Tanaka teaches teaches the replay means sequentially decrypts the node keys

on the path from the **top layer** to the **bottom layer** the hierarchical tree structure

through the use of the key information as the device node key to obtain the **root** key,

and then decrypts the content through the use of the obtained root key (Fig 19 and Fig

20; ¶176).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have modified the Tanaka reference and reverse the Key-

Encrypting-Key hierarchical structure of Tanaka to obtain the applicant's invention.

Changing the order of a KEK sequence (e.g. top layer to bottom or layer or vice-versa)
is commonly known to one of ordinary skill in the art of DRM and recognizable as an
obvious choice of design.

   Re claim 11: Tanaka further teaches the content is encrypted by a content key
which is encrypted by the root key, the replay means decrypts the content key by the
root key, and then decrypts the content through the use of the decrypted content key
(¶176).

9.   Claims 13-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Oho et al. (U.S. Pat Pub 2002/0184515 A1), hereinafter referred to as Oho, in view
of Tanaka et al. (U.S. Pat Pub 2002/0114466 A1), hereinafter referred to as Tanaka.

   Re claim 13: Oho teaches an information server having a function of enabling an
encrypted and distributed content to be used, the information server comprising: a
group registration processing means for associating information about a device group to
which an information device intending to use a content belongs with a group identifier
and registering the information according to a group registration request from the
information device (licensee β owns devices 21a & 21b; Fig 7A, all elts; Fig 18, all elts;
¶109 and ¶110); and a service registration processing means for registering the
information device as an object to be serviced according to a service registration
request from the information device (Fig 18; page 13, ¶177, lines 3-5; ¶180), associating
grouped device identification information for grouping and identifying a plurality of
information devices in a device group to which the information device belongs and key

information for content decryption with the group identifier (Fig 20: specifically elts Idva, Idvb & Idvc; ¶179: lines 7-13) and registering the grouped device identification information (Fig 7A).

However, Oho does not teach providing the key information to all information devices in the device group to which the information device belongs, associating key information for content decryption, registering the key information.

Tanaka teaches providing the key information to all information devices in the device group to which the information device belongs, associating key information for content decryption, registering the key information (Fig 8; ¶121; Fig 12; ¶133; ¶144; ¶137; ¶141, lines 1-4; ¶144)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Oho reference to associate group device information and the dispersion of key information, as taught by Tanaka, for the purpose of providing easy access to DRM contact via a hierarchy of content/node keys (Tanaka: Fig 12 and Fig 14).

Re claim 14: Oho in view of Tanaka teaches a device registration management means for extracting device identification information for identifying each information device from a device registration request from the information device, and associating the device identification information with the group identifier and registering the device identification information according to the device registration request (Oho: Fig 18, elts S31-S38; ¶177 and ¶182).

Re claim 15: Oho in view of Tanaka teaches after the number of device identification information registered in one device group reaches a predetermined number, the device registration management means refuses a device registration request from a new information device belonging to the device group (Fig 18, elts S31-S34, S39, S310).

Re claim 16: Oho in view of Tanaka teaches a device registration deletion request from the information device, the device registration management means deletes device identification information specified by the device registration deletion request (Fig 45, all elts; ¶67).

Re claim 17: Oho in view of Tanaka teaches a license providing means for providing a license specified by a license request from an information device to the information device requesting the license according to the license request (Tanaka: Fig 5; Fig 6: specifically steps S42, S43, S44-S47); and a charging means for extracting grouped device identification information from the license request to judge whether the extracted grouped device identification information is registered by the service registration processing means or not, and depending upon the result, determining whether or not to charge for providing a license from the license providing means (Tanaka: Fig 9, elts S103, S104, S111 and S111; Tanaka: ¶124-125; Oho: ¶123).

Re claim 18: Oho in view of Tanaka teaches one device group is defined as a group including a plurality of information devices owned by one user (Oho: Fig 15; elts 21a, 21b & 21c are identified as group 21, which are owned by Licensee β).

Re claim 19: Oho teaches an information processing system comprising:

an information server having a function of enabling an encrypted and distributed content to be used (Fig 2); and

an information device as a client receiving a service from the information server through communications lines (Fig ,2 elt 31 and Fig 4, elt 31),

wherein the information server comprising:

a group registration processing means for associating information about a device group to which an information device intending to use a content belongs with a group identifier and registering the information according to a group registration request from the information device (licensee β owns devices 21a & 21b; Fig 7A, all elts; Fig 18, all elts; ¶109 and ¶110); and

a service registration processing means for registering the information device as an object to be serviced according to a service registration request from the information device (Fig 18; page 13, ¶177, lines 3-5; ¶180), associating grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs and key information for content decryption with the group identifier (Fig 20: specifically elts Idva, Idvb & Idvc; ¶179: lines 7-13) and registering the grouped device identification information (Fig 7A).

However, Oho does not teach providing the key information to all information devices in the device group to which the information device belongs, associating key information for content decryption, registering the key information.

Tanaka teaches providing the key information to all information devices in the
device group to which the information device belongs, associating key information for
content decryption, registering the key information (Fig 8; ¶121; Fig 12; ¶133; ¶144;
¶137; ¶141, lines 1-4; ¶144)

Tanaka further teaches the information device [Fig 1, CLIENT elt], comprising: a
first memory means for storing an encrypted and distributed content which can be used
on condition that a license is held (Fig 3, elts S3 & S4; page 4, col 2 of ¶83, lines 2-5;
Fig 4, elts S24, S25 & S26; ¶89, lines 9-13; Fig 5, elt DATA with a plurality of
"Encryption Blocks"; ¶105); a second memory means for storing the license (Fig 5, elt:
Lic ID; ¶90 and J91); a third memory means for storing grouped device identification
information for grouping and identifying a plurality of information devices which intend to
use the content and key information for content decryption commonly provided to each
device group together with a group identifier provided to each device group (Fig 8;
¶121; Fig 12; ¶137; ¶141, lines 1-4; ¶144); and a replay means for performing a process
of decrypting the content stored in the first memory means on the basis of the stored
information in the second memory means and the third memory means to replay the
content (Fig 6; ¶105 and ¶106).

It would have been obvious to one of ordinary skill in the art at the time the
invention was made to combine the Oho and Tanaka references as both references are
analogous art; specifically the art of Digital Rights Management.

Re claims 20 and 22: Oho teaches:

an information processing method applied to an information processing system comprising an information server having a function of enabling an encrypted and distributed content to be used and an information device as a client receiving a service from the information server (Abstract),

wherein in the information server,

according to a group registration request from an information device which intends to use a content, information about a device group to which the information device belongs is associated with a group identifier and registered (licensee β owns devices 21a & 21b; Fig 7A, all elts; Fig 18, all elts; ¶109 and ¶110), and

according to a service registration request from the information device, the information device is registered as an object to be serviced (Fig 18; page 13, ¶177, lines 3-5; ¶180), and grouped device identification information for grouping and identifying a plurality of information devices in a device group to which the information device belongs for content decryption are associated with the group identifier and registered, and the grouped device identification information are provided to all information devices in the device group to which the information device belongs (Fig 20: specifically elts Idva, Idvb & Idvc; ¶179: lines 7-13),

However, Oho does not teach providing the key information to all information devices in the device group to which the information device belongs, associating key information for content decryption, registering the key information.

Tanaka teaches providing the key information to all information devices in the device group to which the information device belongs, associating key information for

content decryption, registering the key information (Fig 8; ¶121; Fig 12; ¶133; ¶144;

¶137; ¶141, lines 1-4; ¶144)

and

in the information device,

a content and a license are stored (Fig 3, elts S3 & S4; page 4, col 2 of ¶83, lines

2-5; Fig 4, elts S24, S25 & S26; ¶89, lines 9-13; Fig 5, elt DATA with a plurality of

"Encryption Blocks"; ¶105) (Fig 5, elt: Lic ID; ¶90 and J91);

the grouped device identification information and the key information provided

from the information server are stored together with the group identifier, and on the

basis of the contents of the license, the grouped device identification information and

the key information, the stored content is decrypted to be replayed (Fig 8; ¶121; Fig 12;

¶137; ¶141, lines 1-4; ¶144) (Fig 6; ¶105 and ¶106).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the Oho and Tanaka references as both references are

analogous art; specifically the art of Digital Rights Management and for the purpose of

securing the digital content.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DARREN B. SCHWARTZ whose telephone number is

(571)270-3850. The examiner can normally be reached on Monday-Friday 8:00 AM to

5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Nguyen can be reached on 571-272-1753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
/Taghi T. Arani/
Supervisory Patent Examiner, Art Unit 4193
4/8/2008